

THE CLAIMS

A complete listing of all pending claims is presented.

1. (Currently Amended) A data transmission system ~~having comprising:~~
a transmitting apparatus that transmits a scene description; ~~which describes the structures of one or more signals to be used to construct a scene,~~ and
a receiving apparatus that constructs ~~the~~ a scene according to ~~the~~ said scene description;
wherein: said transmitting apparatus ~~has comprises~~ a scene description processing means that transfers a scene description, which conforms to at least one of the state of a transmission line state and/or a request issued from said receiving apparatus, and appends time information to ~~data including~~ said scene description;
wherein said receiving apparatus monitors ~~said data, including~~ said time information; sent ~~from~~ said transmitting apparatus and detects a delay in transmission ~~in terms of using~~ said time information; and
wherein said scene description comprises at least one node and at least one signal used to construct said scene, each said node describing an object or a relationship between objects.

2. (Currently Amended) A data transmission system according to Claim 1, further comprising
a memory means in which a plurality of predefined scene descriptions ~~is are~~ stored;
wherein: said scene description processing means selects ~~a said~~ scene description from among the plurality of scene descriptions stored in said memory means, and transfers ~~the selected said~~ scene description.

3. (Currently Amended) A data transmission system according to Claim 1, further comprising a memory means in which a plurality of predefined scene descriptions is stored;
wherein: said scene description processing means converts a predefined scene description read from said memory means into ~~another said~~ scene description, and transfers ~~the resultant said~~ scene description.

4. (Currently Amended) A data transmission system according to Claim 1, wherein said scene description processing means encodes a scene description to produce said scene description and transfers ~~the result~~said scene description.

5. (Currently Amended) A data transmission system according to Claim 1, wherein:
said transmitting apparatus includes a signal processing means that transfers one or more signals used to construct a scene, ~~which conform to the state of a transmission line and/or in accordance with said at least one of said transmission line state and said~~ request issued from said receiving apparatus, ~~as one or more signals to be used to construct a scene~~; and
said scene description processing means transfers a said scene description ~~that~~ which conforms to a transmission rate ~~for a signal transferred~~ used to transfer one or more signals by ~~from~~ said signal processing means ~~and/or quality~~.

6. (Currently Amended) A data transmission system according to Claim 1, wherein:
said transmitting apparatus ~~includes further~~ comprises a signal processing means that transfers one or more signals used to construct a scene, which conform to ~~the~~ said at least one of said transmission line state of a transmission line and/or a and said request issued from said receiving apparatus, ~~as one or more signals to be used to construct a scene~~; and
said scene description processing means transfers a scene description that ~~includes~~ comprises information necessary for said receiving apparatus to decode the signals transferred from said signal processing means.

7. (Currently Amended) A data transmission system according to Claim 1, wherein:
said transmitting apparatus ~~includes~~ comprises a signal processing means that transfers one or more signals used to construct a scene, which conform to said at least one of said transmission line state and said ~~the state of a transmission line and/or a~~ request issued from said receiving apparatus, ~~as one or more signals to be used to construct a scene~~; and
said scene description processing means transfers a scene description that specifies whether to use said one or more ~~the signals to be used to construct a scene are used or not~~.

8. (Currently Amended) A data transmission system according to Claim 1, wherein said scene description processing means transfers a scene description whose complexity conforms to said at least one of said transmission line state and said ~~the state of a transmission line and/or a~~ request issued from said receiving apparatus.

9. (Currently Amended) A data transmission system according to Claim 8, wherein said scene description processing means transfers a scene description, ~~with in~~ which a first ~~part-scene~~ part within a scene is replaced with a second ~~part-scene~~ part whose complexity is ~~different~~ differs from the complexity of the first ~~part-scene~~ part, in accordance with said at least one of said transmission line state and said ~~in conformity with the state of a transmission line and/or a~~ request issued from said receiving apparatus.

10. (Currently Amended) A data transmission system according to Claim 8, wherein said scene description processing means transfers a scene description, with which a ~~part-scene~~ part within a scene is removed or a new scene part ~~scene~~ is added to the scene, in accordance with said at least one of said transmission line state and said ~~in conformity with the state of a~~ ~~transmission line and/or a~~ request issued from said receiving apparatus.

11. (Currently Amended) A data transmission system according to Claim 8, wherein said scene description processing means modifies a quantization step, at which a scene description is encoded, in accordance with said at least one of said transmission line state and said ~~conformity with the state of a transmission line and/or a~~ request issued from said receiving apparatus.

12. (Currently Amended) A data transmission system according to Claim 1, wherein said scene description processing means divides a scene description into a plurality of decoding units in accordance with said at least one of said transmission line state and said ~~conformity with the state of a transmission line and/or a~~ request issued from said receiving apparatus, and then transfers the resultant scene description.

13. (Original) A data transmission system according to Claim 12, wherein said scene description processing means adjusts a time interval between time instants at which said receiving apparatus decodes each of the plurality of decoding units into which a scene description is divided.

14. (Currently Amended) A data transmitting method for transmitting a scene description that describes the structures of one or more signals to be used to construct a scene, and constructing the scene according to the scene description, comprising:

transmitting a scene description that conforms to at least one of the state of a transmission line state and/or a request issued from a receiving side is transmitted;

appending time information ~~is appended to said transmitted data including said scene description~~; and

monitoring said time information ~~is monitored to detect delays in transmission in terms of using~~ said time information.

15. (Currently Amended) A data transmitting method according to Claim 14, ~~wherein~~ further comprising:

storing a plurality of predefined scene descriptions ~~is stored~~; and

selecting a scene description ~~is selected from among the said plurality of stored scene descriptions, and then transmitted~~.

16. (Currently Amended) A data transmission ~~system~~ method according to Claim 14, ~~wherein~~ further comprising:

storing predefined scene descriptions ~~are stored~~; and

converting any one of said of the predefined scene descriptions that are stored is read, converted into another scene description prior to the transmission step, and then transmitted.

17. (Currently Amended) A data transmission ~~system~~ method according to Claim 14, ~~wherein further comprising encoding said transmitted a scene description is encoded and transmitted prior to the transmission step.~~

18. (Currently Amended) A data transmission ~~system~~ method according to Claim 14, ~~wherein further comprising:~~

transmitting one or more signals, used to construct a scene, that conform to the at least one of of said state of a transmission line state and/or a said request issued from a said receiving side are transmitted as one or more signals to be used to construct a scene; and

transmitting a said scene description that conforms to in accordance with a transmission rate at which said one or more the signals are transmitted in compliance with the state of a transmission line and/or a request issued from a receiving side, and/or quality is transmitted.

19. (Currently Amended) A data transmitting method according to Claim 14, ~~wherein further comprising:~~

transmitting one or more signals, used to construct a scene, that conform to the said at least one of said state of a transmission line state and/or a said request issued from a said receiving side are transmitted as one or more signals to be used to construct a scene; and

wherein said a scene description that includes comprises information necessary for a said receiving side to restore the said transmitted one or more signals transmitted in conformity with the state of the transmission line and/or the request issued from the receiving side is transmitted.

20. (Currently Amended) A data transmission ~~system~~ method according to Claim 14, ~~wherein further comprising:~~

transmitting one or more signals, used to construct a scene, that conform to the said at least one of state of a said transmission line state and/or a said request issued from a said receiving side are transmitted as one or more signals to be used to construct a scene; and

wherein said a scene description that specifies whether the to use said one or more signals to be used to construct a scene are used or not is transmitted.

21. (Currently Amended) A data transmission ~~system-method~~ according to Claim 14, wherein ~~a-the complexity of said scene description whose complexity conforms to said at least one of said~~ the state of a transmission line and/or a said request issued from a said receiving side is transmitted.

22. (Currently Amended) A data transmission system according to Claim 21, ~~wherein~~ further comprising:

replacing a scene description with which a first part scene within said scene description a scene is replaced with a second part scene whose complexity is different from the complexity of ~~the said first part scene is transmitted in conformity with the state of a~~ based on said at least one of said transmission line state and/or said a request issued from a said receiving side.

23. (Currently Amended) A data transmitting method according to Claim 21, ~~wherein~~ further comprising:

at least one of removing, a part scene within said scene description with which a part scene within a scene is removed or and adding a new part scene is added to the said scene is transmitted in conformity with the state of a in accordance with said at least one of said transmission line state and/or a said request issued from a said receiving side.

24. (Currently Amended) A data transmitting method according to Claim 21, ~~wherein~~ further comprising:

modifying a quantization step at which a said scene description is encoded is modified in conformity with in accordance with said at least one of said the state of a transmission line state and/or a said request issued from a said receiving side.

25. (Currently Amended) A data transmitting method according to Claim 14, further comprising

dividing wherein a said scene description is divided into a plurality of decoding units in accordance with said at least one of said conformity with the state of a transmission line state

and/or a said request issued from a receiving side prior to said transmission step, and then transmitted.

26. (Currently Amended) A data transmitting method according to Claim 25, ~~wherein~~ further comprising

adjusting the dividing step in accordance with a time interval between time instants at which a receiving side decodes each of the plurality of decoding units ~~into which a scene description is divided is adjusted.~~

27. (Currently Amended) A data transmitting apparatus for transmitting a scene description that describes the structures of one or more signals ~~to be used to construct a scene,~~ comprising:

a scene description processing means for transferring a scene description, ~~that conforms to in accordance with at least one of the state of a transmission line state and/or a request issued from a receiving side,~~ and ~~append~~ time information appended to data including said scene descriptions.

28. (Currently Amended) A data transmitting apparatus according to Claim 27, further comprising:

a memory means in which a plurality of predefined scene descriptions ~~is~~ are stored,; wherein: said scene description processing means selects a said scene description from among the plurality of scene descriptions stored in said memory means, and transmits the ~~selected~~ said scene description.

29. (Currently Amended) A data transmitting apparatus according to Claim 27, further comprising:

a memory means in which predefined scene descriptions are stored,; wherein: said scene description processing means converts a predefined scene description read from said memory means into ~~another~~ said scene description, and transfers the ~~resultant~~ said scene description.

30. (Currently Amended) A data transmitting apparatus according to Claim 27, wherein said scene description processing means encodes a said scene description and transmits the resultant said scene description.

31. (Currently Amended) A data transmitting apparatus according to Claim 27, further comprising:

a signal processing means that transfers one or more signals used to construct a scene, which conform to at least one of said the state of a transmission line state and/or a said request issued from a said receiving side, ~~as one or more signals to be used to construct a scene;~~

wherein: said scene description processing means transfers a said scene description, and said scene description ~~that~~ conforms to a transmission rate for the signals transferred from said signal processing means ~~and/or quality~~.

32. (Currently Amended) A data transmitting apparatus according to Claim 27, further comprising

a signal processing means that transfers one or more signals used to construct a scene, which conform to ~~the said~~ at least one of said state of a transmission line state and/or a said request issued from a said receiving side; ~~as one or more signals to be used to construct a scene;~~ wherein:

wherein said scene description processing means transfers a said scene description, which ~~that includes comprises~~ information necessary for a said receiving side to decode the signals transferred from said signal processing means.

33. (Currently Amended) A data transmitting apparatus according to Claim 27, further comprising:

a signal processing means that transfers one or more signals used to construct a scene, which conform to said at least said the state of a transmission line state and/or a said request issued from a said receiving side, ~~as one or more signals to be used to construct a scene;~~ wherein:

wherein said scene description processing means transfers a scene description that specifies whether the signals to be used to construct a scene are used or not.

34. (Currently Amended) A data transmitting apparatus according to Claim 27, wherein said scene description processing means transfers a scene description whose complexity conforms to ~~the~~ said at least one of said state of a transmission line state and/or a said request issued from a receiving side.

35. (Currently Amended) A data transmitting apparatus according to Claim 34, wherein said scene description processing means transfers a scene description, ~~with which~~ wherein a first ~~part-scene part~~ part within a scene is replaced with a second ~~part-scene part~~ part whose complexity is different from the complexity of the first ~~part-scene part~~ part, in ~~conformity with the state of a transmission line and/or a request~~ accordance with said at least one of said transmission line state and said request issued from a said receiving side.

36. (Currently Amended) A data transmitting apparatus according to Claim 34, wherein said scene description processing means transfers a scene description, ~~with in~~ in which a scene part ~~scene~~ within a scene is removed or a new scene part ~~scene~~ is added to the scene, in accordance with said at least one of said transmission line state and said request ~~conformity with the state of a transmission line and/or a request~~ issued from a said receiving side.

37. (Currently Amended) A data transmitting apparatus according to Claim 34, wherein said scene description processing means modifies a quantization step, ~~at in~~ in which a scene description is encoded, in accordance with said at least one of said transmission line state and said request ~~conformity with the state of a transmission line and/or a request~~ issued from a said receiving side.

38. (Currently Amended) A data transmitting apparatus according to Claim 27, wherein said scene description processing means divides a scene description into a plurality of decoding units in accordance with said at least one of said transmission line state and said request

~~conformity with the state of a transmission line and/or a request issued from a~~ said receiving side.

39. (Currently Amended) A data transmitting apparatus according to Claim 38, wherein said scene description processing means adjusts a time interval between time instants at which a said receiving side decodes each of the plurality of decoding units into which a scene description is divided.

40. (Currently Amended) A data transmitting method for transmitting a scene description that describes the structures of one or more signals ~~to be used to construct a scene,~~
~~wherein comprising:~~

transmitting a scene description that in accordance with at least one of said transmission line state and said request conforms to the state of a transmission line and/or a request issued from a receiving side is transmitted;

appending time information is appended to said transmitted data including said scene description.

41. (Currently Amended) A data transmitting method according to Claim 40, ~~wherein~~
further comprising:

storing a plurality of predefined scene descriptions is stored; and

selecting a scene description selected from among the plurality of scene descriptions that are stored is transmitted.

42. (Currently Amended) A data transmitting method according to Claim 40, ~~wherein~~
further comprising:

storing predefined scene descriptions are stored; and

converting a predefined scene description that is stored is read, converted into another scene description, and then transmitted.

43. (Currently Amended) A data transmitting method according to Claim 40, further comprising:

encoding wherein a said scene description is encoded and transmitted.

44. (Currently Amended) A data transmitting method according to Claim 40, wherein further comprising:

transmitting one or more signals used to construct a scene, that conform in accordance with at least one of said transmission line state and said request to the state of a transmission line and/or a request issued from a said receiving side are transmitted as one or more signals to be used to construct a scene; and

a wherein said scene description that conforms to a transmission rate at which the signals are transmitted in accordance with at least one of said transmission line state and said request in conformity with the state of a transmission line and/or a request issued from a said receiving side, and/or quality is transmitted.

45. (Currently Amended) A data transmitting method according to Claim 40, wherein further comprising:

transmitting one or more signals used to construct a scene in accordance with at least one of said transmission line state and said request that conform to the state of a transmission line and/or a request issued from a said receiving side are transmitted as one or more signals to be used to construct a scene; and

wherein a scene description that includes further comprises information necessary for a said receiving side to decode the transmitted signals transmitted in conformity with the state of a transmission line and/or a request issued from the receiving side.

46. (Currently Amended) A data transmitting method according to Claim 40, further comprising:

transmitting wherein one or more signals used to construct a scene in accordance with at least one of said transmission line state and said request that conform to the state of a

~~transmission line and/or a request issued from a said receiving side are transmitted as one or more signals to be used to construct a scene; and~~

~~a wherein said scene description that specifies whether the to use said one or more signals to be used to construct a scene are used or not is transmitted.~~

47. (Currently Amended) A data transmitting method according to Claim 40, ~~wherein a~~ further comprising:

adjusting the complexity of said scene description whose complexity conforms to in accordance with at least one of said transmission line state and said request~~the state of a transmission line and/or a request issued from a said receiving side is transmitted.~~

48. (Currently Amended) A data transmitting method according to Claim 47, ~~wherein~~ further comprising

a scene description, with which modifying said scene description to replace a first part scene part within a scene is replaced with a second part scene part, whose complexity differs is different from the complexity of the first scene part, scene, is transmitted in in accordance with at least one of said transmission line state and said request~~conformity with the state of a transmission line and/or a request issued from a said receiving side.~~

49. (Currently Amended) A data transmitting method according to Claim 47, further comprising

modifying wherein a said scene description, with which by removing a scene part scene within a scene is removed or adding a new scene part scene is added to the scene, in accordance with at least one of said transmission line state and said request, is transferred in conformity with the state of a transmission line and/or a request issued from a said receiving side.

50. (Currently Amended) A data transmitting method according to Claim 47, ~~wherein~~ further comprising:

modifying a scene description encoding step is accordance with a quantization step at which a scene description is encoded is modified in conformity with the state of a transmission

~~line and/or a~~ in accordance with at least one of said transmission line state and said request
issued from ~~a~~ said receiving side.

51. (Currently Amended) A data transmitting method according to Claim 40, further comprising

dividing wherein a said scene description is divided into a plurality of decoding units in
accordance with at least one of said transmission line state and said ~~conformity with the state of a~~
~~transmission line and/or a~~ request issued from ~~a~~ said receiving side.

52. (Currently Amended) A data transmitting method according to Claim 51, ~~wherein~~
further comprising

adjusting the division step in accordance with a time interval between time instants at
which a receiving side decodes each of the plurality of decoding units ~~into which a scene~~
~~description is divided is adjusted.~~

53-77. (Canceled)

78. (New) A data transmission system comprising:

a transmitting apparatus that transmits a scene description; and
a receiving apparatus that constructs a scene according to said scene description;
wherein said transmitting apparatus comprises a scene description processor that
transmits a scene description and a time information, said scene description conforming to a
transmission capacity, said transmission capacity being derived from at least one of a
transmission line state, a request issued from said receiving apparatus, or known available
resources of said receiving apparatus;

wherein said receiving apparatus monitors said time information sent from said
transmitting apparatus to detect a delay in the transmission; and

wherein said scene description comprises at least one node and at least one signal used to
construct said scene, each said node describing an object or a relationship between objects.

79. (New) A data transmission system according to Claim 78, further comprising a memory in which a plurality of predefined scene descriptions are stored; wherein said scene description processor selects said scene description from the plurality of scene descriptions stored in said memory.

80. (New) A data transmission system according to Claim 78, further comprising a memory in which a plurality of predefined scene descriptions are stored; wherein said scene description processor converts one of said plurality of predefined scene descriptions from said memory into said scene description.

81. (New) A data transmission system according to Claim 78, wherein: said transmitting apparatus further comprises a signal processor that transfers one or more signals used to construct said scene, in accordance to said transmission capacity; and said scene description processor transfers a scene description that conforms to a transmission rate for a signal transferred from said signal processor.

82. (New) A data transmission system according to Claim 78, wherein: said transmitting apparatus includes a signal processor that transfers one or more signals used to construct a scene, in accordance with said transmission capacity; and said scene description processor transfers said scene description; wherein said scene description further comprises information necessary for said receiving apparatus to decode the signals transferred from said signal processor.

83. (New) A data transmission system according to Claim 78, wherein: said transmitting apparatus includes a signal processor that transfers one or more signals used to construct a scene, modified to conform to said transmission capacity; and said scene description processor transfers said scene description; wherein said scene description specifies whether to use said one or more signals to construct said scene.

84. (New) A data transmission system according to Claim 78, wherein said scene description processor replaces a first node with a second node whose complexity differs from that of the first node, based on the transmission capacity.

85. (New) A data transmission system according to Claim 78, wherein said scene description is comprised of a plurality of nodes arranged in a heirarchical relationship.

86. (New) A data transmission system according to Claim 85, wherien said scene description is modified in accordance to a transmission capacity, by adjusting the heirarchical relationship between at least one node and a least one of said one or more signals.

87. (New) A data transmission system according to Claim 78, wherein said nodes comprise at least one variable property, wherein said variable property is comprised of at least one of a predefined value, a reference identifying a signal, or another node.

88. (New) A data transmission system according to Claim 87, wherein said scene description is modified based on the transmission capacity by changing at least one variable property of at least one node in said scene description.

89 (New) A data transmission system according to Claim 78, wherein said nodes comprise at least one variable property, wherein said variable property is comprised of at least one of a reference identifying a signal, or another node.

90. (New) A data transmission system according to Claim 78, wherein said scene description is comprised at least one node defining at least one object position in a scene.

91. (New) A data transmission system according to Claim 78, wherein said scene description is modified based on the transmission capacity by changing at least one variable property of at least one node in said scene description, wherein said variable property is changed to remove a reference to a first signal.

92. (New) A data transmission system according to Claim 78, wherein said scene description is further modified based on the transmission capacity by changing at least one variable property of at least one node in said scene description by adding a reference to a second signal.

93. (New) A data transmission system according to Claim 91, wherein said scene description processor adjusts a time interval between time instants at which said receiving apparatus decodes each of the plurality of decoding units into which a scene description is divided.

94. (New) A data transmission system according to Claim 91, wherein said scene description processor adjusts the transmission capacity based on a time interval between time instants at which said receiving apparatus decodes each of the plurality of decoding units